

Flood Simulation of Cities

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Water simulation and water effects are nowadays an evolving field. In recent years we have seen a big advance in fluid simulations. In this work we present a method for flood simulation of cities and complex models. For the fluid simulation we had used SPH method, by which we gained less expensive computation than by using other known methods of water simulation. Because of complex models, collision handling takes an important role in the simulation and becomes a computational burden. In this work we propose a new approach of collision handling in particle methods of fluid simulation by using the distance from the surface. We implemented SPH fluid simulator which can import a model representing boundaries. We are able to visualize the results in OpenGL, as well as reconstruct the surface of the fluid and export it into a COLLADA file. In the end, this file is rendered in 3ds Max.